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Clean Set of Claims

1. A steering unit for a camera dolly, comprising:

a steering transmission ;

a differential;

sprockets on the steering transmission, and on the differential; and

chains at least indirectly connecting the steering transmission to the differential, the sprockets and chains forming a conventional steering system, a crab steering system, and a round steering system.

2. (Amended) The steering unit of claim 1 wherein the differential comprises a top sprocket, a center sprocket, and a bottom sprocket, with the top sprocket axially displaceable from the center sprocket and the bottom sprocket, to provide corrective and round steering.

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~~3.~~ The steering unit of claim 1 wherein the steering transmission comprises a first transmission spaced apart from a second transmission, and with the differential connected to the first transmission by a differential/first transmission chain and the differential connected to the second transmission by a differential/second transmission chain.

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~~4.~~ The steering unit of claim 1 further comprising a first distributor connected to the first transmission by a first distributor/transmission chain, and a second distributor connected to the second transmission by a second distributor/transmission chain.

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~~8~~. The steering unit of claim 1 further comprising a steering mode shift handle linked to the steering transmission, and, means for shifting between corrective, crab, and round steering systems while the operator's hands remain continuously on the shift handle.

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~~6~~. The steering unit of claim ~~5~~ further comprising a pivotable links block having a first link connecting to the differential and having a plurality of idler links connecting to active idlers engaging chains extending around sprockets on the differential.

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~~7~~. The steering unit of claim1 further comprising an over-center linkage attached to the links block and to a steering mode shift handle.

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~~8~~. The steering unit of claim ~~5~~ wherein the sprockets on the first and second transmissions are stacked up vertically and within each transmission have a single axis of rotation.

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~~9~~. The camera dolly of claim 2 further comprising means for automatically and simultaneously adjusting tension on the chains connecting to the top and center sprockets of the differential, when the steering unit is shifted between steering modes.

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~~10~~. The camera dolly of claim 2 further comprising:

a steering unit housing supporting the differential and steering transmissions;

a links block pivotably supported on the steering unit housing; and

a first link pivotably attached to the links block and to the top sprocket of the differential.

11. The steering unit of claim 10 further comprising second, third, fourth, and fifth links pivotably attached to the links block and to first , second, third, and fourth active idler sprockets, with the first and second active idler sprockets engaging the chain connecting to the top sprocket on the differential and the third and fourth active idler sprockets engaging the chain connecting to the middle differential sprocket.

12. (Amended) The steering unit of claim 1 wherein the steering transmission and the differential are supported between top and bottom steering unit plates.

13. The steering unit of claim 8 further comprising a mechanical linkage from the shift handle to the transmission and differential.

14. (Amended) A steering system for a camera dolly comprising:

a rear transmission having first, second, third, and fourth sprockets supported on a first axle;

a front transmission having a first ,second and third sprockets supported on a shift rod;

a differential having a top, center and bottom sprockets axially displaceable from each other;

a rear transmission distributor and a front transmission distributor, each having top, center and bottom sprockets;

a first chain connecting the top sprocket of the rear transmission to the top sprocket of the rear transmission distributor;

a second chain connecting the second sprocket of the rear transmission to the center sprocket of the differential;

a third chain connecting the third sprocket on the rear transmission to the center sprocket on the rear transmission distributor;

a fourth chain connecting the fourth sprocket on the rear transmission to a lower axle sprocket on an axle;

a fifth chain connecting the top sprocket of the differential to an upper axle sprocket on the axle;

a sixth chain connecting the lower sprocket on the differential to the middle sprocket on the front distributor;

a seventh chain connecting the top sprocket on the front transmission to the top sprocket on the front transmission distributor; and

an eighth chain connecting the lower sprocket on the front transmission distributor to the lower sprocket on the front transmission.

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~~15.~~ (Amended) A method of steering a camera dolly comprising the steps of:

placing the dolly operator's hands on a steering bar on the dolly;

selecting conventional steering mode by turning the steering bar, with the operator's hands continuously remaining on the steering bar;

selecting crab steering mode by turning the steering bar, with the operator's hands continuously remaining on the steering bar; and

selecting round steering mode by turning the steering bar, with the operator's hands continuously remaining on the steering bar.

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~~16~~. The method of claim ~~15~~ further comprising the step of moving sprockets on a differential apart as the camera dolly is shifted into conventional or round steering.

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~~17~~. The method of claim ~~15~~ further comprising the step of moving active idlers while shifting steering modes to maintain tension on chains within the dolly.

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~~18~~. The method of claim ~~16~~ further comprising the step of adjusting the amount of movement of the differential sprockets to compensate for a change in the dolly wheelbase/tread dimensions.

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~~19~~. The method of claim ~~16~~ further comprising the step of locking the differential sprockets into fixed positions whenever the steering bar is not positioned at 0° or 180° .

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~~20~~. (New) A steering unit for a camera dolly, comprising:

a steering transmission ;

a differential;

pulleys on the steering transmission, and on the differential; and

belts at least indirectly connecting the steering transmission to the differential, the pulleys and belts forming a corrective steering system, a crab steering system, and a round steering system.

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~~21~~. (New) The steering unit of claim ~~20~~ wherein the differential comprises a top pulley, a center pulley, and a bottom pulley, with the top pulley axially displaceable from the center pulley and the bottom pulley, to provide corrective and round steering.

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22. (New) The steering unit of claim 20 wherein the steering transmission comprises a first transmission spaced apart from a second transmission, and with the differential connected to the first transmission by a differential/first transmission belt and the differential connected to the second transmission by a differential/second transmission belt.

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23. (New) The steering unit of claim 20 further comprising a first distributor connected to the first transmission by a first distributor/transmission belt, and a second distributor connected to the second transmission by a second distributor/transmission belt.

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24. (New) The steering unit of claim 20 further comprising a steering mode shift handle linked to the steering transmission, and, means for shifting between corrective, crab, and round steering systems while the operator's hands remain continuously on the shift handle.

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25. (New) The steering unit of claim 24 further comprising a pivotable links block having a first link connecting to the differential and having a plurality of idler links connecting to active idlers engaging belts extending around pulleys on the differential.

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26. (New) The steering unit of claim 20 further comprising an over-center linkage attached to the links block and to a steering mode shift handle.

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27. (New) The steering unit of claim 22 wherein the pulleys on the first and second transmissions are stacked up vertically and within each transmission have a single axis of rotation.

28. (New) The camera dolly of claim 25 further comprising means for automatically and simultaneously adjusting tension on the belts connecting to the top and center pulleys of the differential, when the steering unit is shifted between steering modes.

29. (New) The camera dolly of claim 24 further comprising:

a steering unit housing supporting the differential and steering transmissions;

a links block pivotably supported on the steering unit housing; and

a first link pivotably attached to the links block and to the top pulley of the differential.

30. (New) The steering unit of claim 29 further comprising a mechanical linkage from the shift handle to the transmission and differential.

31. (New) A steering system for a camera dolly comprising:

a rear transmission having first, second, third, and fourth pulleys supported on a first axle;

a front transmission having a first ,second and third pulleys supported on a shift rod;

a differential having a top, center and bottom pulleys axially displaceable from each other;

a rear transmission distributor and a front transmission distributor, each having top, center and bottom pulleys;

a first belt connecting the top pulley of the rear transmission to the top pulley of the rear transmission distributor;

a second belt connecting the second pulley of the rear transmission to the center pulley of the differential;

a third belt connecting the third pulley on the rear transmission to the center pulley on the rear transmission distributor;

a fourth belt connecting the fourth pulley on the rear transmission to a lower axle pulley on an axle;

a fifth belt connecting the top pulley of the differential to an upper axle pulley on the axle;

a sixth belt connecting the lower pulley on the differential to the middle pulley on the front distributor;

a seventh belt connecting the top pulley on the front transmission to the top pulley on the front transmission distributor; and

an eight belt connecting the lower pulley on the front transmission distributor to the lower pulley on the front transmission.

32. (New) A method of steering a camera dolly comprising the steps of:

placing the dolly operators hands on a steering bar on the dolly;

selecting conventional steering mode by turning the steering bar, with the operator's hands continuously remaining on the steering bar;

selecting crab steering mode by turning the steering bar, with the operator's hands continuously remaining on the steering bar; and

selecting round steering mode by turning the steering bar, with the operator's hands continuously remaining on the steering bar.

33. (New) The method of claim 32 further comprising the step of moving pulleys on a differential apart as the camera dolly is shifted into conventional or round steering.

22 (34). (New) The method of claim 14 (15) further comprising the step of moving active idlers while shifting steering modes to maintain tension on belts within the dolly.

20 (35). (New) The method of claim 19 further comprising the step of adjusting the amount of movement of the differential pulleys to compensate for a change in the dolly wheelbase/tread dimensions.

21 (36). (New) The method of claim 19 further comprising the step of locking the differential pulleys into fixed positions whenever the steering bar is not positioned at 0° or 180° .

35 (37). (New) A camera dolly, comprising:

a steering transmission ;

a differential;

pulleys on the steering transmission, and on the differential; and

belts at least indirectly connecting the steering transmission to the differential, the pulleys and belts forming a first steering system and a second steering system; and

a servo assist system including one or more motors mechanically linked to at least one of the first and second steering systems.

36 (38). (New) The camera dolly of claim 35 with the servo assist system further including a power source linked to the motors and a controller linked to the power source for controlling the motors.

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~~39~~. (New) The camera dolly of claim ~~37~~ further comprising left and right front wheel units and left and right rear wheel units, and with the servo assist system having a first motor linked directly or indirectly to the left front wheel unit and a second motor linked directly or indirectly to the right front wheel unit.

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~~40~~. (New) The camera dolly of claim ~~39~~ with each of the wheel units including a pair of wheels.

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~~41~~. (New) The camera dolly of claim ~~37~~ further including a steering handle on the dolly and one or more switches on the steering handle linked electrically to the controller.

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~~42~~. (New) The camera dolly of claim ~~37~~ wherein the first steering system is a crab steering system and the second steering system is a corrective steering system.

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~~42~~. (New) The camera dolly of claim ~~37~~ further including a round steering system formed by the belts connecting the steering transmission to the differential.

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~~43~~. (New) A camera dolly, comprising:

a steering transmission ;

a differential;

pulleys on the steering transmission, and on the differential; and

belts at least indirectly connecting the steering transmission to the differential, the pulleys and belts forming a first steering system and a second steering system; and

servo assist means for providing power assist to at least one of the first and second steering systems.

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~~44~~. (New) A camera dolly, comprising:

a steering transmission ;

a differential;

sprockets on the steering transmission, and on the differential; and

chains at least indirectly connecting the steering transmission to the differential, the sprockets and chains forming a first steering system and a second steering system; and

a servo assist system including one or more motors mechanically linked to at least one of the first and second steering systems.

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~~45~~. (New) A camera dolly, comprising:

a chassis;

first, second, third and fourth wheel units attached to the chassis and rotatable relative to the chassis about a vertical axes;

a steering handle on the chassis; and

steering system means for providing corrective, crab and round steering operation to the wheel units via movement of the steering handle.